May 2026
Volume 24, Issue 1
American Fisheries Society—Ontario Chapter

the LATERAL line

2026 AGM/Conference Summary

American Fisheries Society
Ontario Chapter

Contents:

The 2026 AFS-OC AGM and Conference, hosted in Ottawa for the first time in 18 years, was held at the Cartier Place Suite Hotel from Friday, January 30 to Sunday, February 1. In the lead-up to the conference, there was much reflection on the immense challenges facing fish, fisheries, and aquatic conservation today—challenges that have only gotten more complex following a tumultuous year of political upheaval, rollbacks of support for equity, diversity, and inclusion (EDI) initiatives, and significant reallocations of funding support for much of the work that many in our community undertake. Accordingly, the conference's theme this year was "Hot topics: Navigating change in contentious environmental and policy landscapes".

We kicked off the programme with a guided tour of the Canadian Museum of Nature's Natural Heritage Campus, courtesy of CMN staff. Conference registrants in attendance were able to get a behind-the-scenes look at the museum's fish and mussel specimen collections and learn more about the research going on at Canada's national museum dedicated to nature and natural history. The tour was followed by a welcome reception at the hotel.

AGM/Conference summary— *cont.*

We opened the conference formally on Saturday morning, with Gary Pritchard from 4 Directions Conservation Consulting Services leading an interactive discussion on colonialism and reconciliation in Canada. We explored understandings (and misunderstandings) of topics including inherent rights and Treaty rights, the origins and dialogue around the practice of land acknowledgements, and how to approach meaningful allyship and effective reconciliation. It was a valuable learning experience for those in attendance, and greatly helped cement the conference's focus on finding actionable approaches to the challenges that inspired this year's theme.

As usual, we featured two keynote speakers over the course of the conference. Our first keynote, AFS President Gary Whelan, shared lessons and experiences from his career in habitat rehabilitation. Gary specifically highlighted differences in theory versus practice in this field, the barriers and pitfalls that can disrupt or hinder projects, and actions that can be done to help avoid or overcome these. Our second keynote, Anishinabe geographer and legal scholar Dr. Kristi Leora Gansworth, discussed the history of colonialism's impacts on Indigenous sovereignty and governance with specific emphasis on water. Dr. Gansworth shared reflections on self-determination and relationships between people and aquatic systems, shifting away from colonial attitudes of water as an exploitable commodity and embracing multi-generational perspectives of stewardship and sustainability.

The oral and poster presentations at the 2026 AGM covered a diverse range of topics, including advances in restoration and monitoring techniques, human dimensions of urban fisheries, knowledge co-production and co-management, and spatial ecology of Ontario fishes. This year, we were pleased to present the E.J. Crossman Award for best student oral presentation to Katie Watkins from Carleton University, for her talk, "Assessing the spatial ecology and habitat use of Emerald Bowfin (*Amia ocellicauda*) in Lake Ontario". We were also pleased to present the Al Dextrase Award for best student poster presentation to Emma Geffros from Trent University, for her poster, "Trends in Ontario's sport fish abundance".

The AFS-OC Student Subunit played a key role in the conference, as always. This year, the Subunit led a silent auction that included a range of items from artwork to fishing supplies, raising funds to support outreach events and other initiatives for our members. As a mentorship event, the Student Subunit held a group trivia quiz. This event was a very fun end to the day—each team consisted of a mix of students and professionals of all stages working together to try and figure out the answers to a diverse array of fish-related questions, spanning topics from fish in pop culture to taxonomy and Anishinaabemowin fish names. Each year, the Student Subunit also presents the Outstanding Mentor Award to someone whose mentorship and support provided significant positive experiences and development opportunities for students in our community. This year's Outstanding Mentor Award winner was Bill Gardner, recently retired from Fisheries and Oceans Canada and a key figure in AFS-OC since its inception. At the same time, the Chapter as a whole also dedicated time to thank Bill for his service and dedication on the Executive Committee. After many years' involvement in various roles (going back to before the unification of

AGM/Conference summary— *cont.*

the northern and southern chapters in Ontario into AFS-OC), and most recently as our long-term Northern Member-at-Large, Bill has announced his retirement from formal involvement on the Executive Committee. As all of us who have had the good fortune of working with him can attest, Bill has been a continuous source of support and knowledge for the Chapter and our members. We congratulate him on all he has accomplished and a very well-deserved mentorship award, and we thank him wholeheartedly for everything he has done for the AFS-OC community.

After our business meeting and the last of our talks on Sunday, our keynotes Gary and Leora were joined by Dr. Nicolas Lapointe (Canadian Wildlife Federation) and Larissa Holman (Ottawa Riverkeeper) for a panel event on the future of fish and aquatic conservation in Ontario and beyond. Circling back to our conference theme, our panelists took questions from the audience and shared their experiences on navigating relevant challenges at the intersections of science, society, and politics, and thoughts on what current and future generations of fish and fisheries professionals can do to best help meet these challenges.

Once again, we express our sincere thanks to everyone who supported and participated in our 2026 AGM and conference, including our sponsors (listed below). We look forward to welcoming our members to next year's conference—dates and location to be announced later this year!

AFS-OC President Connor Reid (left) and E.J. Crossman Award winner for best student oral presentation, Katie Watkins (right).

AFS-OC President Connor Reid (left) and Al Dextrase Award winner for best student poster presentation, Emma Geffros (right).

AFS-OC Student Subunit

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The AFS-OC Student Subunit had a great start to 2026 with planning for and participating at the AGM, where the winner of the Outstanding Mentor Award was announced and presented. We would like to congratulate this year's winner, William (Bill) Gardner from the Great Lakes Laboratory for Fisheries and Aquatic Sciences of Fisheries and Oceans Canada (retired), for his tireless commitment to supporting and mentoring countless students of the Federal Student Work Experience Program and AFS-OC.

Pictured: Raegan Davis (left) and Bill Gardner (right)

At this year's AGM, our mentorship event involved groups of non-student and student members participating in a trivia event, competing for limited edition AFS-OC caps. Congratulations to Team Fathead Minnow!

Pictured: Team Fathead Minnow. Katelyn Watkins, Morgan Kelsey, Sarah Steele, Gary Whelan, and Emma Ehrenfeld (from left to right)

We would like to express our gratitude to everyone for participating in our silent auction and thank Innovasea, Abby Wynia – Fishful Thinking Art, Raegan Davis, Tamara Donnelly, Bill Gardner, Edina Illyés, Ann Rocchi, and Sarah Steele for their silent auction item donations!

We are always looking to grow our AFS-OC Student Subunit to connect with and engage our membership. If you are interested in joining, please reach out at student-president@afs-oc.org or afsocsu@gmail.com.

Keep your eyes on our social media and your inbox for information on upcoming events, such as research aquaculture and laboratory tours. We wish everyone a fin-tastic, safe, and successful summer!

May 2026
American Fisheries Society—Ontario Chapter
Volume 24, Issue 1

AFS-OC President's Message

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My name is Connor Reid, and I have had the honour of serving as the President of AFS-OC for the 2025–2026 year. On behalf of the Executive Committee, I wish to thank all of our members for your continued support of our Chapter. AFS-OC exists to provide our members with opportunities to connect with others who share a passion for fish, fisheries, and aquatic conservation, highlighting what we accomplish, learning new skills and competencies, and trying to figure out how we might best navigate the diverse complexities and challenges facing us today. Your support and participation are the foundation for what we do, so thank you for making our work possible.

We brought our 2026 Annual General Meeting and Conference back to Ottawa (for the first time since 2008), with the theme of "Hot topics: Navigating change in contentious environmental and policy landscapes". We thank all conference attendees for joining us and making the conference such a meaningful experience. In particular, we greatly appreciate Gary Pritchard, who joined us and opened our conference with an engaging discussion and reflection on colonialism and reconciliation, and AFS President Gary Whelan and Dr. Kristi Leora Gansworth, whom we welcomed as our two keynote speakers for this year. We are also grateful to Larissa Holman and Dr. Nicolas Lapointe for joining our keynotes in a panel discussion on the future of policy and management of fish and fisheries; to the Canadian Museum of Nature for offering a tour of their research and collections facilities to conference registrants; and, last but certainly not least, to our Student Subunit for leading a mentorship trivia event, a silent auction, and the presentation of their annual Outstanding Mentor Award at the conference.

In other news, we have a number of subcommittees and personnel leading or involved in initiatives that are soon to be coming to fruition. Our Policy Subcommittee is currently collaborating with the Mid-Canada Chapter and the Canadian Aquatic Resources Section (CARS) of AFS on a detailed response relating to policy and legislative changes at the federal level (notably following the *Building Canada Act*) that have potential implications for fish and aquatic conservation. Our Student Subunit is working to put together mentorship and social events geared especially towards students and early-career professionals.

Our Diversity and Inclusion Subcommittee is developing a workshop centred on colonialism, racism, and anti-racism training in the context of work in fish and fisheries. As a whole, AFS-OC will be offering a careers advice workshop in the fall of this year, with focus on job searching, networking, building CVs/resumes, and handling interviews in various fields relevant to our members. AFS-OC is also assisting with the Percis VI conference—originally scheduled for this year in Columbus, Ohio—through planning and organizational aid for a relocation to Ontario.

President's Message — *cont.*

Lastly, our Executive Committee is always looking for people who are interested in getting involved with AFS-OC in various capacities. Each year, we elect a new President-Elect (who then becomes President the next year, and Past-President the year after that), and other positions (both formal and informal/ad hoc) are available as well. The Student Subunit likewise has annual elections for officer positions and other opportunities for participation. As a result, we have many options for those looking to become more involved with AFS-OC, and we are always on the lookout for ways to better serve our communities. If you are interested, please don't hesitate to reach out.

Thank you again for your support and being an integral part of AFS-OC. It has been a pleasure serving as AFS-OC President, and I wish all of you the best as we look to the future and the next iteration of the Executive Committee.

Sincerely,

Connor Reid
president@afs-oc.org

AFS-OC Executive Committee members (from left to right): Silviya Ivanova (past President), Sarah Steele (Chair Diversity and Inclusion), Rob Eakins (Webmaster), Katie Easterling (Treasurer), Connor Reid (President), Myra Thapar (Secretary), Raegan Davis (President-Elect), Bill Gardner (Northern-Member-at-Large)

Aquatic Invaders – New Invasive Crayfish in Ontario

By Gabriela Carew

Ontario is home to the highest diversity of freshwater crayfish in Canada, with a total of 13 species, including the occurrence of 5 species that have been introduced and are invasive (OFAH Foundation; Ontario Ministry of Natural Resources Invading Species Program, 2025).

As the weather gets nicer and more people are heading out to the creeks through work or recreation, it is important to stay vigilant to what is around while exploring Ontario's waterways. Some more recent invaders that may be lurking in your area are the Marbled Crayfish/ Marmorkrebs and the Red Swamp Crayfish.

Photo 1 – Marbled Crayfish (credit Dr. Premek Hamr, iNaturalist)

Marbled Crayfish/Marmorkrebs (*Procambarus virginalis*)

Marbled Crayfish, or Marmorkrebs (Photo 1), were originally discovered in the German aquarium trade, spreading across several European countries, Madagascar, and Japan before being detected Ontario (OMNR, 2025). In Ontario, according to iNaturalist reports, they have been recorded in one urban park, City View Park, which is located in Burlington, one of which was the first confirmed record of a wild population in all of Canada, detected in the early 2020s (iNaturalist, 2026a).

This crayfish can be identified by their small size and dark brown to green to sometimes blue colour with marbling along their entire body (OMNR, 2025).

Red Swamp Crayfish (*Procambarus clarkii*)

Red Swamp Crayfish (Photo 2) are native to the southern United States but have now been introduced to waterways of several European countries and Ontario (OMNR, 2022).

In Ontario, according to iNaturalist reports, they were recorded in southwestern Ontario in an agricultural drain (the first official observation in the province reported in 2024), as well as more urban aquatic habitats in Oakville and Mississauga (iNaturalist, 2026b).

Some negative impacts of these invasive crayfish include:

- Overconsumption of resources
- Destruction of desirable and critical habitat
- Competition with Ontario's native crayfish
- Destabilization of stream banks caused by burrowing.

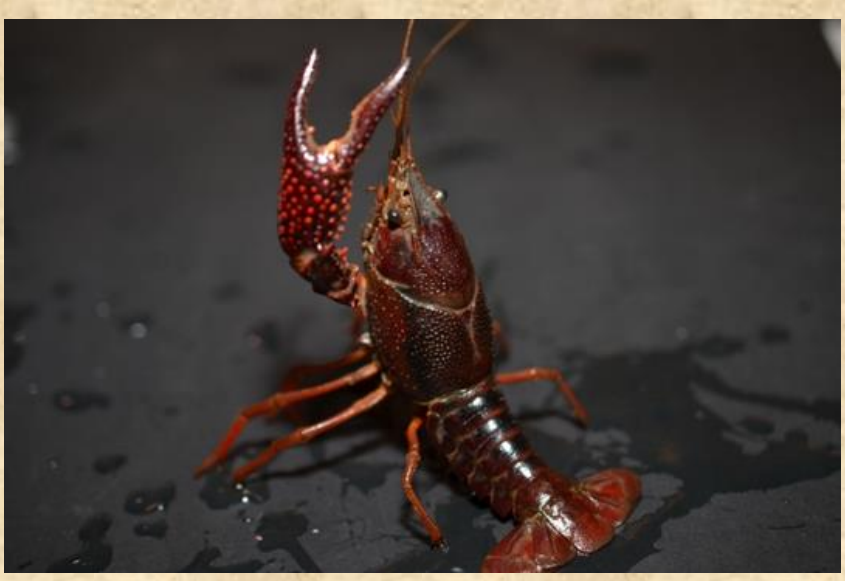

Photo 2—Red Swamp Crayfish (credit Sam Turner, iNaturalist)

For more information, please visit the Ontario Invading Species Awareness Program at www.invadingspecies.com!

To report sightings, call the Invading Species Hotline 1-800-563-7711 (Ontario Invading Species Awareness Program) or report on EDDMapS.org!

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Life in Retirement

By William Gardner, Northern Ontario Member-at-Large

It's been just over one year since I walked out of the Sault Ste. Marie DFO office for the last time as an employee, a place where I worked for 33 years. About the same time that I was celebrating this 1st anniversary of retirement, I was renewing my AFS membership. For the first time since I joined the American Fisheries Society in 2001, I was able to renew my AFS membership not as a regular member but as a retired member.

Figure 1: The author, in the rain, clipping fins on cyprinids for a whole pond population estimate.

The biggest change between a regular AFS membership and a retired AFS membership seems to be the lower price that retirees pay for membership (less than half of the regular membership) but the other benefits include all of the benefits as Regular Membership (subscription to monthly Fisheries magazine, complementary online access to AFS journals, discounts on books and Annual Meeting registration, access to Membership Directory, professional certification) plus a reduced Annual Meeting registration fee.

Using the member's directory on the AFS website I found that of the 77 currently listed members in the Ontario Chapter there are 15 of us who are registered as retired (19.4%). In the Canadian Aquatic Resources Section there are 205 members of which 22 are retired (10.7%). In the North Central division, of which the Ontario chapter is a part, there are 1,000 members. Of those, 88 members are retired (8.8%). In the American Fisheries Society as a whole there are 7,183 members of which 436 are retired (6.1%). It is interesting that the Chapter has a greater percentage of retired members than the Society, the Division, or the Section.

Being retired opens some doors but closes others. Gone are the days of cool field work, but they have been replaced with time to read, time to reflect, and time to pass along information learned trough a lifetime of work. For those of us who attended the 2026 Chapter meeting, held in Ottawa for the first time in a long time, we got to hear our society President, Gary Whelan, discuss how he wants to engage the retired members of the society. Since then, all of us retired members in the society have received an email from Gary detailing how he will have us retired members share our experiences in a mentorship capacity. The society has sent out a survey to glean information about the level of involvement that the retired members are interested in.

Life in Retirement— *cont.*

By William Gardner, Northern Ontario Member-at-Large

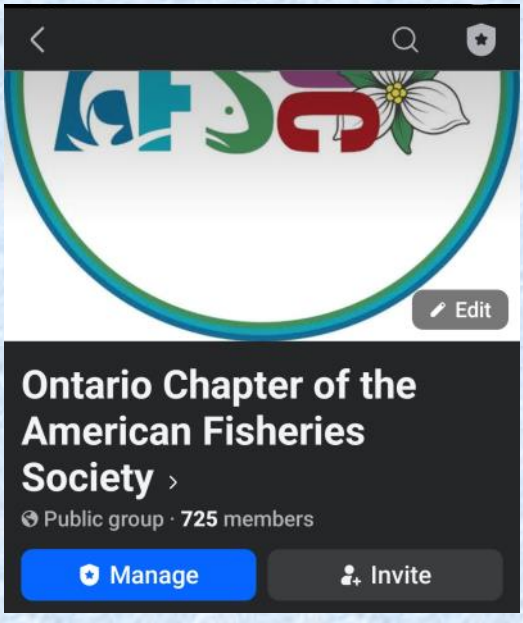
The AFS and the Ontario Chapter have always been a place where new members can interact with more established members, but now they have made it official. For more information on membership, retired or other categories, please contact the AFS at membership@fisheries.org.

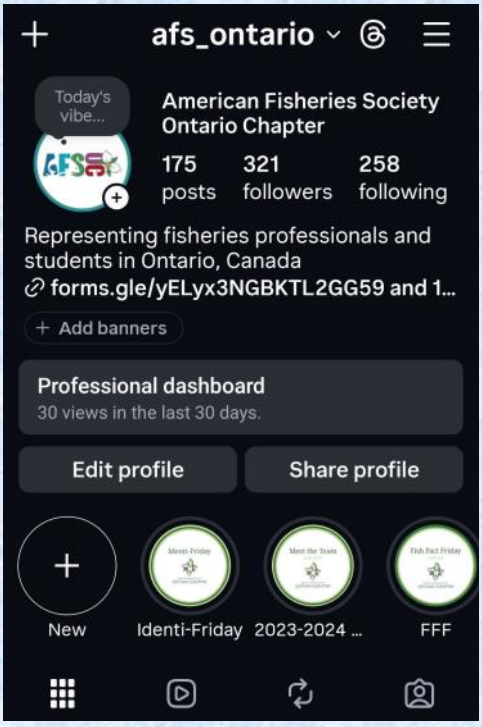
Figure 2: The author enjoying the hunt for large fish statues. This Walleye was in Baudette, Minnesota.

We're Social!

If anyone is interested in helping with the society's social media, please drop us a line!

And if you have anything you'd like to have posted, contact us at student-communication@afs-oc.org or social-media@afs-oc.org.





Jumping Non-jumping Fish

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By Kathryn Peiman, Newsletter Editor

Adult jumping fish are often the target group to get past barriers, but what about other non-jumping species and earlier life stages?

Here are three species of fishes (Eastern Blacknose Dace *Rhinichthys atratulus*, juvenile Rainbow Trout *Oncorhynchus mykiss*, and White Sucker *Catostomus commersonii*) that are trying but cannot pass these barriers on their own.

Book Review

The Whole Fish Cookbook: New Ways to Cook, Eat, and Think

Book by Josh Niland

Review by Connor Reid

Overview

The Whole Fish Cookbook: New Ways to Cook, Eat, and Think, by Australian chef Josh Niland (founder of his restaurant, Saint Peter, which opened in Sydney in 2016), is centred on the idea of making the most out of fish by expanding on our ideas of which fish species are good to eat, how to source and prepare fish, and what culinary uses can be found for parts of fish (beyond fillets) that may not often be seen as "desirable". In essence, this book is the product of a professional chef's creativity and training blended with an interest in sustainability and reduction of food waste, and it is clear from the text that it is intended to be inclusive towards casual home cooking and not limited to professional-level cooking. I was gifted a copy of the book a while back but, between a few moves, it got stored away and forgotten for quite some time.

Having become more interested in making the most out of fish (and other animals) in the kitchen in recent years, I remembered this book and thought it would be worth sharing a few thoughts on it with the community given how many of us (1) eat fish and (2) care about the quality and sustainability of what we eat. Moreover, I've heard a lot of great things about this book, so the main question for me was: how useful and relevant might this book be for people who like to cook, but probably don't do so at a professional or near-professional level, and who don't necessarily have access to at least some of the fish recommended in the recipes within?

Background & Theory

The book begins with a brief introduction by Niland and his learning journey in cooking with fish and reducing food waste, followed by an overview on various important considerations relating to how we approach cooking with fish. These sections, before getting to the recipes, comprise the more "academic" portion of the book. Some attention is given to barriers/challenges to cooking with fish, like cost, logistics, attitudes towards different fish, and "essential" equipment, but the discussion is kept fairly high-level for the most part. The following sections on sourcing, cleaning, and storing fish are more comprehensive and explain a number of important considerations as far as fish quality is concerned. I think there's a good chance that even people who clean and cook fish often may learn a few new things about subtle differences in cleaning and storage practices and how these can affect the fish. I'll also note that many of the pictures in this book are not just nice but also quite helpful—beyond showing recipes, there are detailed visualizations to accompany butchering techniques and of the "breakdowns" of fish into different usable parts (i.e., everything) which can be a very helpful guide for those looking to learn more about the anatomy of a fish from a culinary lens.

Book Review—cont.

A number of creative methods are then provided for means to cure fish, and also to prepare and use the offal—internal organs, eyes, etc.—which is likely to be a great source of inspiration for many of us who have never had much (if any) training or exposure on how to make use of these parts.

The Recipes

After a brief section on some issues one might encounter while cooking fish, we get to the recipes themselves. First, a general note: the individual recipes in this book look *beautiful* and are organized into sections of general cooking technique—serving raw, curing, and pickling; poaching; pan, shallow, and deep frying; barbecuing and grilling; and baking and roasting—but for the most part they require considerable competency, time, and/or access to necessary equipment and ingredients to follow as written. Not everyone has the means to cold smoke fish, or the space and temperature control to dry age fish for multiple days, or the desire make fish and chips a four-day process, for example.

Unfortunately, I only had the time and means leading up to this review to try out one of the more simple and accessible recipes: the King George whiting Kyiv (page 170). A fish take on a chicken classic, it features a fried breaded fish stuffed with a herb and garlic butter. Now, as many of us know, pretty much every recipe blog has at least one person who leaves a one-star review saying they didn't have eggs so they used eggplant, or they thought one of the steps looked optional for some reason and skipped it, and then they have no idea why it turned out terribly. Not wanting to be that person, I tried to follow the recipe as written, but did have to make a few adjustments.

First, the fish: King George whiting is endemic to Australia's south, but the book listed other whiting as acceptable options, so I picked some up from my local seafood market. The herb and garlic butter "logs" were quick and easy enough to make. The recipe list called for boneless butterflied fish with heads intact, but the wording of later steps implied it was actually a reverse butterfly (belly-side open), so I did the latter. The instructions for each fish are to insert one of the butter logs into the body cavity and close the belly using toothpicks. The toothpicks are intended to create a seal "without any gaps", but I found this impossible to maintain as fish were handled in the steps that followed, which included dusting the outsides (minus the heads) in flour, egg, and panko, and after about a half hour chilling in the fridge, a quick deep-fry. The recipe called for cottonseed or sunflower oil for frying, so I picked up the latter, but while looking up the smoke point of sunflower oil (n.b., cooking oil smoke seems to be an often-overlooked carcinogen/health hazard), I learned that the "cold-pressed" sunflower oil I got probably had a smoke point lower than the 180ºC needed for deep frying, so I did a slightly longer cooking time at about 135ºC. That actually worked fine, but the lack of a clean seal from the toothpicks meant a decent amount of that rich garlic butter was lost in the process.

Book Review—cont.

Other than the butter loss, the end result was pleasing overall: the breading was crisp, the fish itself nice and moist, and what remained of the garlic butter plus some lemon squeezed on top gave a nice layer of richness and acidity, respectively. Probably because of the longer cooking time and the inevitable butter escape, the sunflower oil taste was very noticeable—not bad, but also far from the intended result. I'll definitely try doing something like this again, but with a different oil and a few more modifications to see if those butter logs can be made to stay in another way.

"King George whiting" Kyiv, as shown on page 171 of *The Whole Fish Cookbook*, vs. my attempt (on the right, if it needs to be said), including the conspicuous lack of herb-garlic-buttery goodness pooling below the fish.

Broader Thoughts on Recipes

The diversity of recipes in this book is great, because there are so many interesting ideas to try out for those with the time and the means to do so, but it also reduces the overall accessibility of the book for many people. The emphasis on dry-ageing in particular may mean difficulties for the typical home cook. Much of this is situational—a chef in an Australian coastal city is going to have better access to a diverse array of freshly caught fish than a postdoc stuck in Ottawa, so one possible conclusion here is that I'm simply not in the book's target demographic. That's fine, but as the book is explicitly presented as intended for home cooks as much as anyone else, I think it's important to raise this point for anyone who might come across it and thinks of ordering a copy (either for themselves or someone else) without getting the chance to actually look inside.

Book Review—cont.

Also, while the book does do a good job talking about the background and theory for fish quality and preparation, this is obviously not an exhaustive resource on the subject. Importantly, questions about contaminants in fish such as parasites and pollutants are only addressed briefly and for specific cases, so readers seeking knowledge about how to minimise risk of pollutant uptake and what species, tissues, etc., might be best to avoid should look elsewhere for more information.

A few final things to note: each recipe is typically presented for a specific fish, but with a brief/non-exhaustive list of some alternate species that may work well. With few exceptions (e.g., rainbow trout), the fish listed are exclusively marine, and local/common names are used (so when seeing “garfish”, for example, use marine garfish *Belone belone* and definitely not a longnose or spotted gar like we have in Ontario). Depending on locally-available options, it may be tricky to know what alternative might look best.

Conclusion

My overall assessment is that Josh Niland’s *The Whole Fish Cookbook* is a great read and a potentially worthwhile purchase for people who enjoy, and can dedicate a good chunk of time and resources towards, cooking fresh fish. At the same time, the book as a whole is likely less relevant, though still probably very interesting, for people who are not as experienced with cooking fish (and cooking in general) and/or who have less access to the necessities described within. There are quite a few other recipes within that I’d like to try in full at some point, like the fish garum, but those will have to wait. In the meantime, I’ve got more than enough inspiration from this book to drive smaller changes in the ways I cook and prepare fish.

Fish Focus: **Lake Whitefish** (*Coregonus clupeaformis*)

By Siobhan Ewert

Coregonus: From Greek *kore* (pupil of the eye) and *gonia* (angle), referring to the position of the eye.

Clupeaformis: Meaning “herring-like,” referring to its silvery, laterally compressed body shape.

The Lake Whitefish is a cold-water species found throughout Ontario’s large lakes and deep river systems. It plays a vital ecological role as a "nutrient bridge" between benthic and pelagic zones and remains a cornerstone species for Ontario’s commercial and Indigenous fisheries.

Did you know? Lake Whitefish are a primary indicator species for cold, well-oxygenated water. Their presence acts as a "green light," signaling a healthy and functioning deep-water ecosystem. Historically, they supported massive fisheries in the Great Lakes, such as the famous St. Marys Rapids, where they have been a staple for Indigenous communities for millennia.

Features: The Lake Whitefish has a streamlined, silvery body with a dark greenish-brown back and a white belly. It is easily identified by its prominent, overhanging snout and **subterminal (downturned) mouth**, adapted for bottom feeding. Compared to the similar-looking Cisco, it has a deeper body and a mouth that sits below the snout rather than at the tip.

Habitat: This species is typically found in cold, clear lakes, preferring water temperatures generally below 15°C. In Ontario, they are commonly associated with sand or rocky substrates in deep water. They are highly sensitive to oxygen levels and water quality, making them excellent indicators of environmental health in the Great Lakes and inland waters like Lake Simcoe.

Reproduction: Lake Whitefish spawn in late fall (typically November) when water temperatures drop below 10°C, with peak activity between 4.5°C and 8°C. Adults move into shallow, rocky shoals where eggs are broadcast over the substrate. The eggs settle into the spaces between rocks and remain unguarded through the winter, hatching in early spring as the ice breaks.

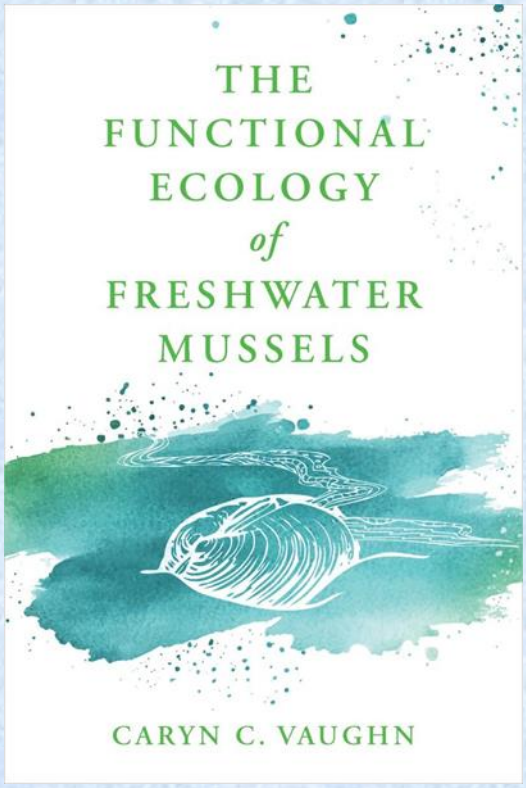
Diet: They feed primarily on benthic invertebrates, including insect larvae (such as chironomids), molluscs, and small crustaceans. By consuming these bottom-dwelling organisms and being preyed upon by larger fish, they cycle energy from the lake floor up through the rest of the food web.

New Books

The Functional Ecology of Freshwater Mussels

Caryn C. Vaughn

Publisher: Johns Hopkins University Press. 216 pages, 41 b&w illustrations. $97.95



A comprehensive synthesis of mussel-driven ecosystem processes and their role in freshwater sustainability.

Freshwater mussels are among the most endangered animals on the planet—and some of the most ecologically important. As powerful filter feeders and ecosystem engineers, mussels influence everything from water clarity and nutrient cycling to the structure of entire aquatic communities. In *The Functional Ecology of Freshwater Mussels*, Caryn C. Vaughn offers the most comprehensive synthesis to date of how mussels shape the ecosystems they inhabit.

Integrating more than 30 years of original field and laboratory research with a rapidly expanding global literature, Vaughn examines how mussels support water quality, contribute to biogeochemical processes, influence food web dynamics, and enhance biodiversity across aquatic and adjacent terrestrial environments. Chapters detail the biology and life history of mussels, the complex interactions within their communities, and the environmental conditions that influence their performance. Vaughn shows how species-specific traits and environmental context shape the magnitude of diverse mussel functions. With attention to the consequences of species composition, habitat variation, and climate stressors, the book shows how mussel-driven processes scale from individual organisms to entire river systems.

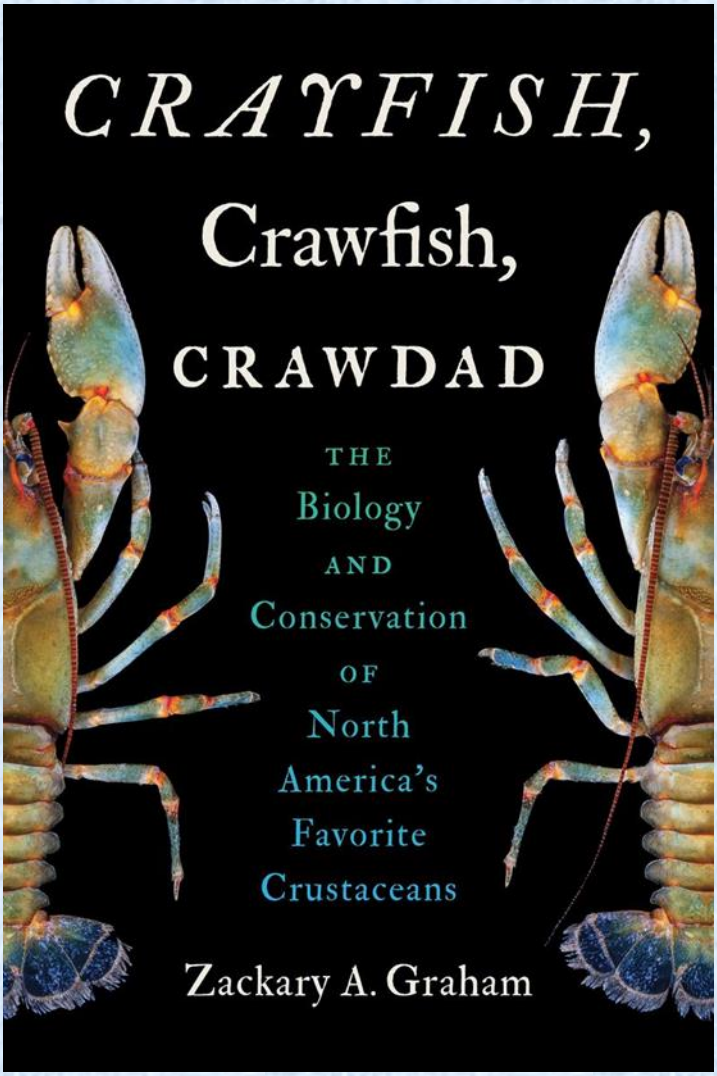
Vaughn presents practical strategies for conservation and explains how effective restoration requires linking mussel biology with the goals of broader ecosystem management. *The Functional Ecology of Freshwater Mussels* is an essential reference for ecologists, conservation professionals, aquatic resource managers, and policymakers concerned with the sustainability of freshwater systems.

New Books—cont.

Crayfish, Crawfish, Crawdad: The Biology and Conservation of North America's Favorite Crustaceans

Zackary A. Graham

Publisher: The University of North Carolina Press. 232 pages, 80 color plates, 2 drawings, 3 maps. $37.99



Whatever you call them—crayfish, crawfish, or crawdads—these small crustaceans are a vital piece of the larger ecosystem, and though they're found nationwide, the American Southeast and Appalachia are among the most biodiverse places for these animals. Biologist and crayfish expert Zackary Graham takes readers on an informative journey, following crayfish from the coalfields of Central Appalachia to the spring-fed water of Northern California, and in roadside ditches everywhere in between. He discusses crayfish habitats—the muddier the better—anatomy, and coloration, which runs the gamut from dull grays to vivid blues, reds, and even bright white.

Most important, Graham shows how necessary crayfish are to our ecosystem and rallies a call for protection as nearly 200 of the 400 unique species of crayfish in the United States are threatened by development, pollution, and other human-made factors. A love letter to a common crustacean, this book shows nature lovers that crayfish are diverse, important, and in need of our help.

May 2026

American Fisheries Society—Ontario Chapter

Volume 24, Issue 1

"On the Hook!"

the LATERAL line

Recent Enforcement: Record Fine for Illegal Invasive Species Possession

A Southern Ontario resident was recently fined $95,000 after pleading guilty to the illegal import, possession, and sale of invasive Snakehead fish. Following a public tip regarding an aquatic pet store, conservation officers seized several live specimens from a private residence where the fish were being offered for sale online. This significant penalty highlights Ontario's strict stance on the illegal handling of invasive species, which pose a severe threat to the health and biodiversity of our local aquatic ecosystems. Reminder: reporting suspicious activity through the MNR Tips line (1-877-847-7667) is one of our most effective ways to prevent the introduction of high-risk species into Ontario watersheds. (Ontario Newsroom https://share.google/ZJhHrLJhZEtsRrUcU).

Ontario Repeals Endangered Species Act; Federal Oversight Begins

As of April 1, 2026, the Ontario government has officially repealed the *Endangered Species Act*, replacing it with the *Species Conservation Act*. This change effectively removes provincial protections for 42 aquatic species and 18 migratory birds, ceding management responsibility to the federal government. For local fisheries, this means species like the Redside Dace will now rely entirely on federal protection orders under Canada's *Species at Risk Act* (SARA). Conservation groups are calling for immediate federal intervention to close potential habitat protection gaps.

Read the full report from Environmental Defence on the policy shift.

The "Big News" (CA Amalgamation) Bill 68 and the Shift to Regional Conservation

On March 10, 2026, the Ontario government announced a major structural reform to the province's conservation authority system. Under the newly created Ontario Provincial Conservation Agency (OPCA), the existing 36 independent authorities will be consolidated into nine regional conservation authorities to reduce administrative duplication and modernize technical standards. For example, the Grand River Conservation Authority is slated to join a new "Eastern Lake Erie" regional body. This transition is expected to be fully implemented by early 2027.

Read the full Bill 68 Legislative Update or the GRCA's consolidation announcement.

Enhancing Connectivity in the Grand River Watershed

The Grand River Conservation Authority (GRCA) and local partners have advanced several key connectivity projects for 2026, including significant habitat restoration and safety improvements at the Wellington Street Dam. These initiatives focus on restoring natural rapids and removing dangerous hydraulic barriers to improve passage for native Great Lakes fish and mussel species. By replacing traditional dam structures with rock-and-boulder slopes, these projects restore aquatic habitat diversity while maintaining public access for angling and recreation.

View current and upcoming GRCA Restoration Projects.

Resource Spotlight: The Aquatic Ecosystem Classification (AEC) for Ontario

The **Aquatic Ecosystem Classification (AEC)** is a science-based framework developed to organize the vast complexity of Ontario's 500,000 kilometers of rivers and streams. By grouping waterbodies based on physical traits like water temperature and drainage size, the AEC provides a standardized data foundation that helps fisheries managers predict habitat types and track species at risk across the province.

You can access the full report and mapping resources at the River and Stream Ecology Lab website.

Recipe

CRAPPIE FISH TACOS

4 servings

30 minutes

ICE FISHING CATCH & COOK

INGREDIENTS

For the Fish:

1.5 lbs of Crappie Fillets
½ C Vegetable Oil
2 Eggs
½ C Flour
½ C Panko Bread Crumbs
½ C Italian Bread Crumbs
Salt, Pepper, & Paprika

Salsa:

1 Orange Bell Pepper
1 Red Onion
2 Jalapeños
2 Roma Tomatoes
1 Bunch of Cilantro
2 tbsp Olive Oil
1 Lime
Salt & Pepper

Lime Crema:

½ C Sour Cream
1 Lime
2 tbsp of Cilantro
Salt & Pepper

Additional:

Tortillas
Feta Cheese

DIRECTIONS

1. Add vegetable oil to a cast iron pan over medium-high heat.
2. Use one bowl to combine ½ C of panko bread crumbs, ½ C of Italian bread crumbs. Add salt, pepper, & paprika to preference. Use one bowl to mix 2 eggs. Use one bowl to add ½ C of flour. Add salt, pepper, & paprika to preference.
3. Dry fish with paper towels. Then place into flour, egg, and bread crumb mix.
4. Dice orange bell pepper, red onion, jalapenos, roma tomatoes, and cilantro. Combine all into a bowl. Add in olive oil and juice from one lime. Add salt and pepper to taste.
5. Once pan is hot add fish to the pan. Turn fish when they get golden brown.
6. Begin making lime crema. Add ½ C of sour cream, juice of one lime, 2 tbsp of cilantro. Add salt and pepper to taste.
7. Assemble tacos. Place lime crema, fish, salsa, and add crumbled feta cheese.
8. Enjoy!

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4 DIRECTIONS

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